MODUL HANDBOOK

Module Name	Basic Chemistry II
Module level	Bachelor
Abbreviation, if applicable	8420403122
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	2 nd/First Year
Module coordinator(s)	Dr. Utiya Azizah, M.Pd.
Lecturer(s)	**Dr. Utiya Azizah, M.Pd.;Dr. Sukarmin, M.Pd.; Dr. Nuniek Herdyastuti, M.Si.; Dian Novita, S.T., M.Pd.; Dr. Maria Monica Sianita B., M.Si.; Dr. Hj. Rinaringsih, M.Pd; Dr. Mitarlis, S.Pd., M.Si**
Language	Indonesian
Classification within the curriculum	Compulsory Course
Teaching format/class hours per week during the semester:	3 hours lecturers (50 min per hours)
Workload:	1 CU for bachelor degree equals to 3 workhours per week or 170 minutes (50' face to face learning, 60' structured learning, and 60' independent learning). In one semester, courses are conducted in 14 weeks (excluding mid and end-term exam). Thus, 1 CU equals to 39.67 workhours per semester. One CU equals to 1.59 ECTS.
Credit points:	3 CU (4,77 ECTS)
Prerequisites course(s):	-
Targeted learning outcomes:	1. Students have the ability to utilize learning resources and ICT to support mastery of concepts and theories of all topics in Basic Chemistry II. 2. Students have the ability to make decision about the relationship between concepts on Basic Chemistry II and laboratory practice with Chemistry in daily life. 3. Students have knowledge of the reaction rate, chemical equilibrium, redox and electrochemistry, colloidal system, nuclear chemistry and radioactivity, chemical elements, green chemistry and chemicals in daily life, 4. Students have responsible attitude in doing laboratory practice honestly.
Content:	**1. Rate of reaction:** Kinetics Law, Factors that affect the rate of reaction, activation energy, order of reaction, collision theory, and mechanism of reaction. **2. Chemical equilibrium**: Dynamic equilibrium, Equilibrium Law, Le Chatelier Principles, application of equilibrium concepts in industry. **3. Redox and electrochemistry**: concepts of redox, equivalency of redox reaction, electrochemistry, DGL cell

	and Nernst equation, electrolysis and its quantitative aspect, corrosion. 4. **Colloid system**: definition, dispersion system, classification of colloid based on their properties, colloid making and their usage in daily life. 5. **Nuclear chemistry:** stability of nuclear, radioactive decay, nuclear reaction. 6. **Chemical elements**: metals, non-metals, and transition elements, principles of metals processing. 7. **Green Chemistry**: definition and characteristics, principles that support green chemistry. 8. **Chemistry in daily life:** chemicals in household, chemicals in food, addictive agent and psychotropic drugs.
Study / exam achievements:	Students are considered to be competent and pass if at least get 55 Final score is calculated as follows: 20% participation + 30% assignment + 20% middle exam (UTS) & 30% final exam (UAS) Table index of graduation • A = 4 (85 ≤-≥ 100) • A- = 3,75 (80 ≤-< 85) • B+ = 3,5 (75 ≤- < 80) • B = 3 (70 ≤-< 75) • B- = 2,75 (65 ≤-<75) • C+ = 2,5 (60 ≤-<65) • C = 2 (55 ≤-<60) • D = 1 (40 ≤-<55) • E = 0 (0 ≤-<40)
Media:	Computer, LCD, White board
Learning Methods	Individuals assignment, group assignment, discussion, presentation, and practicum
Literature:	1. Tim Kimia Dasar. 2017. *Kimia Dasar I* . Surabaya: Unesa University Press. 2. Brady and Humiston. 2004. *General Chemistry, Principles and Structures*. New York: John Willey and Sons. 3. Chang, Raymond. 2005. *General Chemistry The Essential Concepts Third Edition.* USA: McGraw Hill. 4. Ahmad, Hiskia. 1990. *Kimia Larutan*. Bandung: Jurusan Kimia FMIPA ITB
Note:	Basic Chemistry II cover the activities on theory, practice, and presentation.